UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,569	12/21/2004	Carl L. Christensen	PU020298	6833

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-10 and 12-14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-10 and 12-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

10/05/2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Adams (W098/16040) (see the IDS) and Knapp et al. (hereafter, referred as

Knapp) (US 6,005,904), further in view of Lydon et al. (hereafter, referred as Lydon) (US

6,757,302).

As to claim 1, Adams discloses a method for extracting selected time information

from a stream of serialized digital audio data (see page 3, lines 19-31 and page 4, lines

26-27), comprising: detecting a first transition indicative of a first preamble of the stream

of serialized AES digital audio data (see page 3, lines 29-31, where Adams describes

that each preamble <u>begins with a violation of the biphase-mark encoding rule</u> that each

cell is bordered by a transition, and also see page 4, where Adams discloses that the violations have been detected (detection of violations have been interpreted as detection of a first and second preamble)); detecting a second transition indicative of a subsequent preamble of the serialized AES digital audio data; and determining a time separating the first and second transitions (see page 4, lines 26-27). Adams discloses transferring the determined time information to a decoding logic circuit (see page 1, lines 12-13). Adam discloses all the subject matters claimed in claim 1, except for decoding the data by utilizing the determined time and that the extracting time information (i.e. the steps of detecting and determining) has been performed by a broadcast router. Knapp discloses a decoder 42 (see column 5, lines 1-28) at the receiver of a communication system, where the decoder continuously decodes the input signal and signals the occurrence of a pattern that matches a predetermined set of valid preambles. Knapp further discloses that the decoder 42 is designed to decode a specific set of bits within the preambles. If that set does not occur for a set period of time, possibly indicated by a certain count within counter 44, then the lock/unlock signal will indicate an unlock condition. Counter 44 is a modulo N counter <u>where N clock cycles is the time period between preambles</u>. If a valid preamble is detected after exactly N clock cycles , decoder 44 indicates one valid preamble has been detected. Therefore Knapp clearly teaches decoding the data utilizing the determined time between the preambles. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Adams as suggested by Knapp to use the determined time between the preambles to decode the signal, to increase the performance of the

decoder by using a more accurate clock. Adams and Knapp disclose all the subject

matters claimed in claim 1, except that that the extracting time information (i.e. the steps

of detecting and determining) has been performed by a broadcast router. Lydon, in the

same field of endeavor, discloses a router, wherein each input of the router is

connected to an input processor 14 (see column 1, last paragraph and column 4, lines

29-35). Lydon further discloses that each input processor includes an AES3 receiver 18,

which is of conventional form and detects the code violation and locks to the biphase

data stream, decodes the biphase mark data to unframed NRZ form, generates output

clocks for control purposes and generates overhead bits. Lydon further discloses that

the router is a broadcast router (see column 1, third paragraph). It would have been

obvious to one of ordinary skill in the art at the time of invention to use the teachings of

Adams in a broadcast router to take advantage of a self-clocking technique (see Adams

pages 2-5).

As to claim 4, Adams, on page 11, lines 26-28, discloses that the time

information is determined in the form of a clock pulse count separating the first and

second transitions, wherein the clock pulse count is a count of clock pulses. It would

have been obvious to one of ordinary skill in the art at the time of invention to modify

Adams' background of invention as suggested in Adams' invention disclosure to allow

the system to adjust the timing of the clock if necessary (see page 11, lines 28-30).

As to claim 5, Adams does not expressly disclose that the first transition and

second transition are separated by thirty one intervening transitions, wherein said thirty

one intervening transitions are not indicative of said subsequent preamble of said

serialized AES digital audio data. However, it is extremely well known in the art that

each sub-frame of AES digital audio data includes 32 bits starting with a preamble,

therefore inherently the first transition and second transition are separated by thirty one

intervening transitions (i.e. the distance from the preamble in the first sub-frame to the

preamble in the second sub-frame), wherein said thirty one intervening transitions are

not indicative of said subsequent preamble of said serialized AES digital audio data.

3.   Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Adams, Knapp, and Lydon, further in view of Lyle et al. (hereafter, referred as Lyle) (US

7,295,578).

As to claim 6, Adams, Knapp and Lydon do not disclose that the determined time

information is also suitable for use in encoding the stream. Lyle, in the same field of

endeavor, discloses a communication system comprising a transmitter and a receiver

(see Fig. 21), wherein a communication link between the transmitter and the receiver

feeds back an audio clock signal generated at the receiver (see column 25, lines 56-57)

to an encoder of the transmitter (see Fig. 29). It would have been obvious to one of

ordinary skill in the art at the time of invention to modify Adams, Knapp, and Lydon as

suggested by Lyle to send the clock used for decoding the data to the transmitter to

synchronize the clocks used for encoding and decoding.

As to claim 7, Lyle discloses transferring the determined time information to an

encoding logic circuit for use in encoding the stream of audio data (see Figs. 21 and 29

and column 25, lines 56-57). It would have been obvious to one of ordinary skill in the

art at the time of invention to modify Adams, Knapp, and Lydon as suggested by Lyle to

send the clock used for decoding the data to the transmitter to synchronize the clocks

used for encoding and decoding.

As to claim 8, Adams, on page 11, lines 26-28, discloses that the time

information is determined in the form of a clock pulse count separating the first and

second transitions. It would have been obvious to one of ordinary skill in the art at the

time of invention to modify Adam's background of invention as suggested by Adams to

allow the system to adjust the timing of the clock if necessary (see page 11, lines 28-

30).

As to claim 9, Adams does not expressly disclose that the first transition and

second transition are separated by thirty one intervening transitions, wherein said thirty

one intervening transitions are not indicative of said subsequent preamble of said

serialized AES digital audio data. However, it is extremely well known in the art that

each sub-frame of AES digital audio data includes 32 bits (for instance see Lydon lines

25-35) starting with a preamble, therefore inherently the first transition and second

transition are separated by thirty one intervening transitions (i.e. the distance from the

preamble in the first sub-frame to the preamble in the second sub-frame), wherein said

thirty one intervening transitions are not indicative of said subsequent preamble of said

serialized AES digital audio data.

4.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scott et

al. (hereafter, referred as Scott) (US 6,654,409), in view of Adams.

As to claim 10, Scott discloses an apparatus comprising: a decoder circuit (see

blocks 707 and 708) coupled to receive a stream of serialized (see column 4, lines 27-

28) digital audio (i.e. the telephony signal) data (see column 15, lines 24-36), the

decoder circuit (combination of blocks 707 and 708) extracting time information from the

stream of digital audio data during the decoding thereof; and a target component (see

block 712) coupled to the decoder circuit, the target component receiving the extracted

time information from the stream of serialized digital audio data; wherein the target

component utilizes the extracted time information while executing at least one function

(i.e. encoding) thereof (see column 15, lines 55-56). Scott further discloses that the

extracted time information is also utilized, by the decoder circuit, to decode the received

stream of serialized digital audio data (see column 15, lines 30-32 time base of the

decoder helps the decoder to decode the signal). Scott discloses all the subject matters

claimed in claim 10, except that the signal has been encoded according to AES

standard. Scott also does not disclose that the time information is based on determining

a time separating a first transition, indicative of a first preamble of said stream of

serialized AES digital audio data, and a second transition, indicative of a second

preamble of said stream of serialized AES digital audio data. However, using AES

standard as an encoding standard for digital audio signals is extremely well known in

the art (as evidence by Adams page 1, lines 17-27) and therefore it would have been

obvious to one of ordinary skill in the art at the time of invention to use AES standard in

the system disclosed by Scott to facilitate data transmission between communication

devices. Regarding to the second set of limitations missing from Scott, Adams further

discloses an apparatus for extracting selected time information from a stream of

serialized digital audio data (see page 3, lines 19-31 and page 4, lines 26-27) by

detecting a first transition indicative of a first preamble of the stream of serialized AES

digital audio data (see page 3, lines 29-31, where Adams describes that each preamble

begins with a violation of the biphase-mark encoding rule that each cell is bordered by a

transition, and also see page 4, where Adams discloses that the violations have been

detected (detection of violations have been interpreted as detection of a first and

second preamble)); detecting a second transition indicative of a subsequent preamble

of the serialized AES digital audio data; and determining a time separating the first and

second transitions (see page 4, lines 26-27). It would have been obvious to one of

ordinary skill in the art at the time of invention to modify Scott as suggested by Adams

to take advantage of a self-clocking technique (see Adams page 2, lines 13-19).

5.   Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fuller (US 6,772,021), in view of Lydon.

As to claim 12, Fuller discloses a method comprising: detecting a first transition

of the stream of serialized AES digital audio data (see the abstract, column 1, lines 7-9,

29-34, 48-51, column 2, lines 21-34 and column 3); determining the interval between

preambles (see column 2, lines 27-34 and column 3), counting a number of clock pulses

of a clock from the detecting of the first transition of the serialized AES digital audio

signal in the determined interval (see column 3, first paragraph), and outputting the

clock count to a decoding logic circuit (see Fig. 1, blocks 30, 32, and 60, column 2, lines

27-34 and column 3, lines 3-4). Fuller discloses all the subject matters claimed in claim

12, except that that the extracting time information (i.e. the steps of detecting and

determining) has been performed by a broadcast router. Fuller also does not disclose

that the interval between the preambles has been determined by counting a number of transitions of the serializer AES digital audio data from the first transition until the number of transition reaches a count of 33. As to the first limitation, Lydon, in the same field of endeavor, discloses a router, wherein each input of the router is connected to an input processor 14 (see column 1, last paragraph and column 4, lines 29-35). Lydon further discloses that each input processor includes an AES3 receiver 18, which is of conventional form and detects the code violation and locks to the biphase data stream, decodes the biphase mark data to unframed NRZ form, generates output clocks for control purposes and generates overhead bits. Lydon further discloses that the router is a broadcast router (see column 1, third paragraph). It would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Adams in a broadcast router to take advantage of a self-clocking technique (see Adams pages 2-5). As to the second limitation, Lydon discloses that the AES sub-frame contains 32 bits (see column 1, lines 25-35) starting with a preamble. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to count the number of transitions of the AES signal from the first transition until the number of transitions reaches a count of 33 (since it takes 33 counts to reach the preamble in the next sub-frame) to find the second preamble, and also the distance between the preambles, to simplify the detection of the preambles.

As to claim 13, Fuller discloses that the clock is a higher frequency than a frequency of the transitions of the serialized AES audio data (see column 2, lines 60-62).

As to claim 14, Fuller discloses that the clock is a fast clock (see column 2, lines 60-62, because the clock is preferably at least 4, and more preferably at least 8 or 16, times the rate of the audio data).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEILA MALEK whose telephone number is (571)272-8731. The examiner can normally be reached on 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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